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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,102

08/18/2003

Mark Krier

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12/10/2008

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EXAMINER

A, MINH D

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/643,102	Applicant(s) KRIER ET AL.	
	Examiner MINH D. A	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/09/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-8 is/are allowed.
- 6) ☒ Claim(s) 1,2,9-17 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments filed on July 09, 2008 have been received and entered in the case. Claims 1-17 and 23-25 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Shamir et al (Pub. No: U.S 2004/0135726A1).

Regarding claim 1, Shamir et al disclose, in figures 2a, and 7A and 7B), a magnetic loop dipole antenna comprising: a first portion (202); a second portion (204)(page 3, paragraphs {0030}}, lines 5-14), a third portion (the loop, such as figures 7a- 7b), the third portion coupled to the first portion and to the second portion; and a substrate, the substrate comprising an antenna coupled to the substrate as an etched pattern of conductive material, such as copper, for example. The antenna is fed through a capacitive gap, or as a series capacitor from each lead of the feeder to a side of the conductive material forming the loop. The capacitance is an electrical gap and the void is a disruption of the conduction

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material at the gap. Thus the capacitive area claimed in the claim 1, for example, substantially spans the void, as recited.

Regarding claim 9, Shamir et al disclose, in figures 2a, and 7A and 7B), a magnetic loop dipole antenna, the antenna including a capacitive area (gaps (202 and 204)); a substrate, the substrate comprising an antenna coupled to the substrate as an etched pattern of conductive material, such as copper, for example. The antenna is fed through a capacitive gap, or as a series capacitor from each lead of the feeder to a side of the conductive material forming the loop. Tha capacitance is an electrical gap and the void is a disruption of the conduction material at the gap. Thus the capacitive area claimed in the claim 1, for example, substantially spans the void, as recited.

Regarding claims 10-11, Shamir et al disclose wherein the substrate comprises a high dissipation factor substrate and wherein the substrate comprises a FR4. (page 3, paragraph (0038), lines 1-12).

Regarding claim 12, Shamir et al disclose wherein the system comprise a plurality of circuits, since the small antenna requires to have a plurality of circuits such as transmitter and receiver and amplifier.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

.4. Claims 2, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shamir et al (Pub. No: U.S 2004/0135726A1).

Regarding claims 2, 13, Shamir discloses that, small antennas can be used many type wireless. Page 1, paragraph [0008], lines 1-20.

Shamir does not teach that, wherein the antenna is configured to operate at a frequency selected from a group consisting of a GPS, a Bluetooth, a WiFi, and a cellular phone frequency.

Shah et al disclose a wireless telephone (203) for using any type wireless device such as a Bluetooth or WiFi network. Page 9, paragraph [00.811], lines 15-18.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ the wireless telephone disclosed in Reference of Shah in the small antenna of Shamir to achieve the claimed invention. As disclosed in Reference of Shah, the motivation for the combination would be to obtain the wireless communication protocols such as Bluetooth or Wifi Network.

Regarding claim 16, Shamir disclose that, a small antenna can be used many type wireless. Page, paragraph [0008], lies 1-20.

Shamir does not teach that, wheein the system comprised a wrist type and wherein the system is selected from a group consisting of : a medallion, a button, a belt buckle, a wrist, a phone, a PDA apparatus.

Lepkofker discloses the wrist type and wherein the system us selected from the group consisting of a medallion, a button, a belt buckle, a wrist, a phone, a PDA apparatus. See figures 1A-1D, col.7, lines 1-25.

It would have been an obvious to one ordinary skill in the art at the time the invention was made to employ the wirst types disclosed in Reference of Lepkofker in the small antenna of SHamir to achieve the claimed invention. As disclosed in Reference of Lepkofker, the motivation for the combination would be to obtain a data or information selected by user.

6. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shamir et al (Pub. No: U.S 2004/0135726A1) in view of Rutkowski et al (U.S Patent No: 6, 124,831).

Regarding claims 23 and 25, Shamir et al disclose an antenna includes a capacitative area (gap); and a substrate, the substrate comprising a voids (defined by capacitive areas by gaps).

Shamir does not teach that, wherein the at least two antennas. Rutkowski discloses a folded dual antennas for wireless communications device. It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ two antennas such as that suggested by Rutkowski in the system of Shamir to operate a multiple frequency bands.

Regarding claim 24, Sharir discloses that, small antennas can be used many type wireless. Page 1, paragraph [0008], lines 1-20.

Shamir does not teach that, wherein the system comprises a wrist type of apparatus.

It would have been obvious to one of ordinary skill in the art to utilize wrist type of apparatus, since it is known and well suited for the intended use.

Response to Arguments

7. Applicant's arguments filed on 7/09/2008 have been fully considered but they are not persuasive.

Applicants' independent claims 1 and 9 are directed to " wherein the antenna is coupled to the substrate, and wherein a capacitive area of the antenna substantially spans the void". Prior art (Shamir et al (U.S Pub. No: 2004/0135726A) does not disclose this feature.

Examiner would like to point out that identical rejection of the above identified claims were sustained in the office act date 4/09/08. Examiner discloses the substrate comprising an antenna coupled to the substrate as an etched pattern of conductive material, such as copper, for example. The antenna is fed through a capacitive gap, or as a series capacitor from each lead of the feeder to a side of the conductive material forming the loop. The capacitance is an electrical gap and the void is a disruption of the conduction material at the gap. Thus the capacitive area claimed in the claims 1 and 9, for example, substantially spans the void, as recited.

Applicant further asserts that Shamir et al. teach that manufactured capacitors may be used, such that the gap would be filled with a dielectric material. It is agreed that manufactured capacitors are included in one obvious variant of the invention of Shamir. However, even if a dielectric material is filled in the gap, a void of conductive material remains. Moreover, one of ordinary skill

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in the art can readily recognize that air is a sufficient dielectric between conductive bodies to produce a capacitance. Shamir et al. do not teach a step of filling in the gap with a dielectric. This additional step would have added expense to the manufacturing process with little added benefit.

For at least reasons, the Examiner has established a prima facie case of anticipation of claims 1 and 9 under 35U.S.C. §102. Additionally, Prior art provides teaching that would have suggested the additional requirements of Applicant's independent claims 1 and 9.

For the aforementioned, claims 10-12 remain rejected under 35 U.S.C. 102(e) as being anticipated by Shamir.

Applicants' independent claim 23 is directed to "a plurality of antennas, wherein at least two of the antennas each includes a capacitive area; and a substrate, the substrate comprising a plurality of voids, wherein the capacitive area of the at least two antennas generally spans respective ones of the plurality of voids.) Prior art (Shamir et al (U.S Pub. No: 2004/0135726A) in view of Rutkowski et al (U.S Patent No: 6,124,831) do not disclose this feature.

Examiner would like to point out that identical rejection of the above identified claims were sustained in the office act date 4/09/08. Examiner disclose that,

Shamir et al disclose an antenna includes a capacitive area (gap); and a substrate, the substrate comprising a voids (defined by capacitive areas by gaps) and Rutkowski discloses a folded dual antennas for wireless communications device.

For at least reasons, Prior art provides teaching that would have suggested the additional requirements of Applicant's independent claim 23.

For the aforementioned, claims 24-25 remain rejected under 35 U.S.C. 103(a) as being unpatentable by Shamir in view of Rutkowski et al.

For the aforementioned, claims 2 and 13 remain rejected under 35 U.S.C. 103(a) as being unpatentable by Shamir in view of Shah(U.S Pub No: 2002/0068543).

Allowable Subject Matter

8. Claims 3-8 are allowed.

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art does not teach that, he third portion defining an inductive area; and a substrate, the substrate defined by a periphery and a void within the periphery, wherein the first portion, the second portion, and the third portion define a capacitively coupled dipole antenna, and wherein the capacitively coupled dipole antenna is coupled to the substrate such that the capacitative area spans the void recited in independent claim 3.

Prior art does not teach that, wherein the substrate comprises a second void, wherein at least one of the plurality of circuits is disposed within the second void recited in dependent claim 14.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Citation of relevant prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Hill (U.S. Patent No. 5,422,650) discloses a loop antenna with series resonant circuit.

Duan et al (U.S. Patent No. 6,400,274) discloses a high performance mobile power antennas.

Inquiry

Any inquiry concerning this communication or earlier communications

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from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

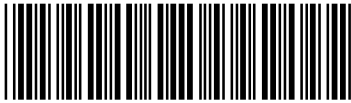
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

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Date 11/23/08

/Douglas W Owens/
Supervisory Patent Examiner, Art Unit 2821
December 8, 2008

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/643,102	KRIER ET AL.	
	Examiner	Art Unit	
	MINH D. A	2821	